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TRAINING MATERIALS AND DATA REQUIREMENTS FOR UNIT CONDUCT
OF FIRE TRAINER (U-COFT) TRAINING TEST SUPPORT PLAN

ARI FIELD UNIT AT FORT KNOX, KENTUCKY

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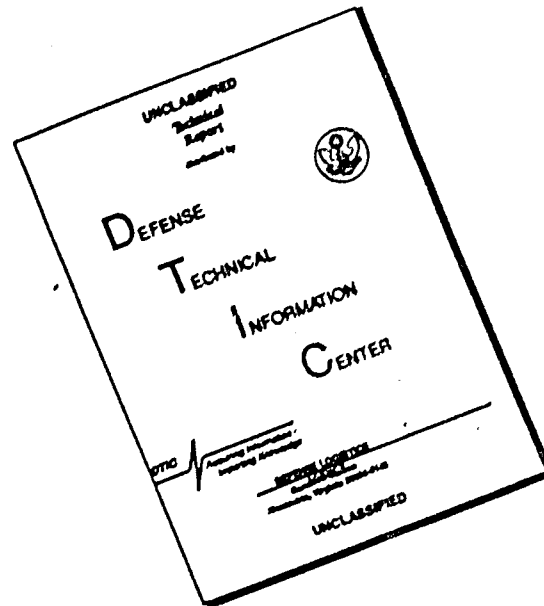


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20. (Continued)

Issue 2.1.3 What is the transfer effectiveness of the three XMI training alternatives?

Issue 2.1.4 What are the training resources required for each of the three XMI training alternatives?

Research Product 81-8

TRAINING MATERIALS AND DATA REQUIREMENTS FOR UNIT CONDUCT
OF FIRE TRAINER (U-COFT) TRAINING TEST SUPPORT PLAN



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FOREWORD

The Fort Knox Field Unit of the Army Research Institute for the Behavioral and Social Sciences (ARI) carries out research and exploratory development in the area of Armor training. An objective of this work is to develop, through analytic and field research, tank crew and individual training methods that are effective and efficient.

The project of which this report is a part was conducted by personnel of the Human Resources Research Organization (HumRRO) under Contract No. MDA 903-79-C-G582 and monitored by Donald F. Haggard, Chief of ARI Field Unit at Fort Knox. The research was done under ARI FY78 Work Program, Army Project 2Q762722A777, Individual Training Technology, Task D: Technology for Front-End Analysis of Armor Systems, Work Unit 3: Simulation Characteristics of Armor Systems. The work is responsive to requirements of the US Army Armor School at Fort Knox, the Army Training and Doctrine Command, and the Army Forces Command.


JOSEPH ZEIDNER
Technical Director

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SUMMARY

The material presented in this training TSP for the XM1 U-COFT was developed in response to the test concept for OT II to answer three of the operational issues asked in the IEP for the U-COFT. These answers will be used in the decision to continue into the production stage of the U-COFT and to select a production source. The three operational issues are:

- Issue 2.1.1 What is the training effectiveness of each of the three XM1 training alternatives (in sustaining gunnery proficiency of XM1 Gunners and Commanders)?
- Issue 2.1.3 What is the transfer effectiveness of the three XM1 training alternatives (in sustaining gunnery proficiency of XM1 Gunners and Commanders)?
- Issue 2.1.4 What are the training resources required for each of the three XM1 training alternatives?

The test concept for the XM1 U-COFT, developed to yield maximum data to address the IEP issues, incorporates three groups, as follows:

- Group I XM1 tank sustainment training.
- Group II: Chrysler U-COFT sustainment training.
- Group III: General Electric (GE) U-COFT sustainment training.

In general, the training programs for Group II and Group III will be structured and follow the program of instruction and lesson plans as developed by the respective contractors (Chrysler and General Electric) for sustainment training. The baseline training program (Group I) will employ appropriate training media other than the U-COFT. The training design for the three sustainment training programs and the training resource requirements forms are in this document.

In order to evaluate the gunnery sustainment training program, data forms were prepared to collect data in three areas:

- . Training Resource Requirements (Issue 2.1.4).
- . Training Effectiveness (Issue 2.1.1).
- . Training Transfer (Issue 2.1.3).

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INTRODUCTION

Recognizing both the potential benefits and the potential risks associated with the use of training devices and simulators as adjuncts and substitutes for operational equipment, the Army has evolved a multi-tiered assessment policy, in which plans and devices are evaluated at successive phases of development, from concept evaluation to operational testing. Certain parts of the Army's device-evaluation policy, namely the parts that deal with the design of baseline and experimental courses of instruction to address operational issues defined in the Independent Evaluation Plan (IEP), and the design and preparation of specifications for elements of the training test support plan (TSP) are interrelated to the extent that one part (the TSP) is "required" by the other part (the IEP).

The material presented in this training TSP for the XM1 UCFT was developed in response to the test concept for OT II to answer three of the operational issues asked in the IEP for the UCFT¹. These answers will be used in the decision to continue into the production stage of the UCFT and to select a production source. The three operational issues are:

- Issue 2.1.1 What is the training effectiveness of each of the three XM1 training alternatives {in sustaining gunnery proficiency of XM1 Gunners and Commanders²?
- Issue 2.1.3 What is the transfer effectiveness of the three XM1 training alternatives {in sustaining gunnery proficiency of XM1 Gunners and Commanders²?
- Issue 2.1.4 What are the training resources required for each of the three XM1 training alternatives?

¹ Author. Independent Evaluation Plan for XM1/M60 Series Unit Conduct of Fire Trainer. 13 June 1980.

² Author. XM1/M60 COFT Competitive Evaluation Plan. 15 October 1979.

ORGANIZATION

The training materials and data requirements are organized as follows:

Chapter 1 Training Concepts for XML COFT

Chapter 2 Data Requirements

Appendix A XML Gunnery Engagement Categories

Appendix B XML Gunnery Objectives

Appendix C Training Resource Requirement Forms

CHAPTER ONE
TRAINING CONCEPTS FOR XM1 UCFT

Overview

The test concept¹ for the XM1 UCFT, developed to yield maximum data to address the IEP issues, incorporates three groups. The three groups are:

Group I: XM1 tank sustainment training.

Group II: Chrysler UCFT sustainment training.

Group III: General Electric (GE) UCFT sustainment training.

In general, the training programs for Group II and Group III will be structured and follow the program of instruction and lesson plans as developed by the respective contractors (Chrysler and General Electric) for sustainment training. The baseline training program (Group I) will employ appropriate training media other than the UCFT. The training design for the three sustainment training programs and the training resource requirement forms are in this document.

Training Design

The recommended training design for the three groups includes the sequences shown in Table 1. A pre-test will be given for the three groups on the XM1 to determine entry level job proficiency. Each group will be pre-tested on its respective device to determine the entry level proficiency on the device. Each group will then participate in its respective sustainment training program. The amount of time and resources necessary to meet the program objectives will be tracked during program administration. At the conclusion of training, each group will be post-tested on its respective device and then on the XM1. The data requirements for all phases of the program are presented in Chapter 2.

¹ Op. cit. 13 June 1980.

TABLE 1
RECOMMENDED TRAINING DESIGN

GROUP I (XM1 Tank)	GROUP II (Chrysler UCFT)	GROUP III (GE UCFT)
Pretest on XM1	Pretest on XM1	Pretest on XM1
Pretest on device (XM1 Tank)	Pretest on device (Chrysler UCFT)	Pretest on device (GE UCFT)
Baseline developed training exercises	Contractor developed training exercises	Contractor developed training exercises
Posttest on device (XM1 Tank)	Posttest on device (Chrysler UCFT)	Posttest on device (GE UCFT)
Posttest on XM1	Posttest on XM1	Posttest on XM1

Among the assumptions and qualifications made in the training plan design are that:

1. Tank Commanders and Gunners will have been transition trained on the XM1 prior to assignment to a test group. Current plans call for the transition training program developed for the XM1-OT III to be used for this purpose. Since the crews from the XM1 OT III at Fort Hood may not be stabilized in order to participate in the UCOFT OT II, some soldiers may be assigned who have not undergone M60A1 to XM1 transition training. These soldiers must be transition trained in order to enter sustainment training.
2. Each soldier will train two hours per month for three months. It is expected that only actual training time will count against this time restriction. Set up time, firing range non-firing time (for Group I), and travel time, for example, will not count against the two hours per month. Neither, of course, will the pretest and posttest times.
3. The training content will be exclusively main gun, coaxial machinegun, and .50 caliber machinegun gunnery. The two hours per month for three months time restriction precludes formal practice on gunnery related tasks such as perform computer data check, perform computer self-test, perform superelevation check, and the like. The contribution of proficiency on these gunnery related tasks to proficiency on gunnery engagements should not be overlooked. Consideration should be given to providing time outside the confines of the OT II restrictions to practice formally these kinds of tasks. Detailed training objectives for gunnery related tasks and an explanation regarding their development and use are in a companion publication entitled Development of Training Objectives for XM1 UCOFT¹.
4. Much of the information pertaining to either or both UCOFT is proprietary in nature. As such, it cannot be duplicated, disclosed, or used except with permission of the respective contractor. Nothing proprietary in nature is contained in this document.

¹ Harris, J.H., Campbell, C.H., Kraemer, R.E., and Bessemer, D.W. Development of Training Objectives for XM1 UCOFT. HumRRO/ARI, Working Paper. December 1979.

5. Prior to pretest on the simulators, the crews will participate in the respective device orientations.

Test Participants and Dates¹

The test participants during OT II, and the dates of participation are as follows:

<u>Position</u>	<u>Grade</u>	<u>Qual</u>	<u>Number</u>	<u>Inclusive Dates</u>	<u>Source</u>
Instructors	E5/E6	19K	12	T-30 to T+90	2/5 Cav, Ft Hood
Tank Commanders (TC)	E4/E5	19K	48	T to T+90	2/5 Cav, Ft Hood
Gunners	E4/E5	19K	48	T to T+90	2/5 Cav, Ft Hood
Loaders	E2/E3	19K	48 ²	T to T+90	2/5 Cav, Ft Hood
Drivers	E2/E3	19L	48 ²	T to T+90	2/5 Cav, Ft Hood

The arrangement of companies and platoons in the OT II test is shown in Table 2.

Training Materials

The domain of XM1 tank gunnery engagements can be broken down into discrete categories. Each category is broadly defined as a combination of the levels of six conditions, as follows:

- . Fire Control Mode - Normal, Emergency, or Manual.
- . Method of Engagement - Precision or Battlesight.
- . Laser Rangefinder - Operative or Inoperative.
- . Gunner's Primary Sight Reticle - Operative or Inoperative.
- . Thermal Imaging System - Operative or Inoperative.
- . Lead Angle Sensor - Operative or Inoperative.

After deleting combinations that are not rational, and combining into single categories combinations that have identical impact on gunnery, 31 categories remain. Table 3 presents the 31 engagement categories and the combinations of condition levels that define each. Each engagement category can be presented as in Figure 1 and Appendix A³, where the

¹ Author. Outline Test Plan, XM1 Unit Conduct of Fire Trainers. 23 January, 1979, and conversation with DTD UCOFT POC, 4 August, 1980.

² Loaders and Drivers are required for the pretests and posttests on the XM1 for each group. Also, Loaders and Drivers are required for the Group I device pretest, gunnery portion of the sustainment training program, and the device posttest.

³ Gunnery with the .50 caliber machinegun is included although the conditions (excluding target range) have no impact on .50 caliber gunnery.

TABLE 2
ARRANGEMENT OF COMPANIES¹
AND PLATOONS FOR OT II

		GROUP I (XM1 Tank)	GROUP II (Chrysler UCFT)	GROUP III (GE UCFT)
COMPANY	A	1st Platoon	2nd Platoon	3rd Platoon
	B	1st Platoon	2nd Platoon	3rd Platoon
	C	1st Platoon	2nd Platoon	3rd Platoon
	D	1st Platoon	2nd Platoon	3rd Platoon

¹ The structure of the XM1 tank battalion for OT III at Fort Hood, Texas includes four companies of three platoons each. The distribution of the tanks over the Battalion is:

Company A	13 tanks	(4 per platoon, plus CO tank)
Company B	13 tanks	(4 per platoon, plus CO tank)
Company C	13 tanks	(4 per platoon, plus CO tank)
Company D	13 tanks	(4 per platoon, plus CO tank)
Battalion HQ	3 tanks	(CO, XO, SMAJ)
	<u>55 tanks</u>	

OT II for the UCFT evaluation requires 48 tanks (that is crews), as follows:

Company A	12 tanks	(4 crews per platoon)
Company B	12 tanks	(4 crews per platoon)
Company C	12 tanks	(4 crews per platoon)
Company D	12 tanks	(4 crews per platoon)
	<u>48 tanks</u>	

Battalion HQ tanks (3) and Company CO tanks (4) crews will not participate.

TABLE 3

XML TANK GUNNERY
ENGAGEMENT CATEGORIES

Fire Control Mode	Fire Control System Failure							
	None	GPS Reticle	TIS	GPS Reticle & TIS	Lead Angle	GPS Reticle & Lead Angle	TIS & Lead Angle	GPS Reticle & TIS & Lead Angle
OPERATIVE LRF	<u>ENGAGEMENT NUMBER</u>							
NORMAL								
Precision	1	2	3	-	5	6	7	-
Battlesight	-	-	4	-	-	-	8	-
EMERGENCY								
Precision	-	-	-	-	9	10	11	12
Battlesight	-	-	-	-	-	-	13	14
MANUAL								
Precision	-	-	-	-	-	-	-	15
Battlesight	-	-	-	-	-	-	-	16
INOPERATIVE LRF								
NORMAL								
Precision	17	18	19	-	20	21	22	-
Battlesight	23	24	4	-	25	26	8	-
EMERGENCY								
Precision	-	-	-	-	27	28	29	12
Battlesight	-	-	-	-	30	31	13	14
MANUAL								
Precision	-	-	-	-	-	-	-	15
Battlesight	-	-	-	-	-	-	-	16

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M	<u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS	<u>+</u>
S	<u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS	<u>+</u>
		MULT <u>+</u>			

Figure 1. Sample display for engagement category 1.

possible status of conditions for own tank and target are given by a + in the appropriate condition level. The conditions included in Table 3 and Appendix A are those that can be evaluator controlled in training or testing. Included in the Appendix is a set of assumptions/conditions for XM1 gunnery and a list of fire control system "things."

A finite number of gunnery objectives can be derived in each engagement category by multiplying by each other the number of allowable (those with a +) condition levels in each category. For example, multiplying the allowable condition levels in Category 1 results in 72 possible objectives. Some combinations of conditions make no sense, however, and can be eliminated out of hand; for example, an objective having machinegun targets at long range. Rather than derive all possible objectives¹ for each category and then select a sample for training, only three objectives for each were derived. In this way, since there are no more than three levels of condition for any one condition, all the allowable condition levels for an engagement category are included at least once in the three objectives. The 93 gunnery objectives are displayed in Appendix B². These objectives are the material for pretesting, sustainment training, and posttesting for all three test groups. Two example objectives are at Figures 2 and 3. The objective, for engagement Category 1, can be stated as follows:

Given an XM1 tank that is moving and has no fire control system failures, and a target at long range that is visible during daylight, and moving, the crew will neutralize the target.

The objective for the example in Figure 3 is from Engagement Category 7 and can be written as:

Given an XM1 tank that is moving and has a malfunctioning TIS and lead angle sensor, and a main gun target at long range and a coaxial machinegun target at medium range that are both visible during daylight, and moving, the crew will neutralize the target.

¹ A list of reports describing thoroughly the concept of the domain of gunnery and its utility is given in Table 4.

² Gunnery with the .50 caliber machinegun is included although the conditions (excluding target range) have no impact on .50 caliber gunnery.

TABLE 4
REPORTS DESCRIBING THE
DOMAIN OF GUNNERY

1. Kraemer, R.E., Boldovici, J.A., and Boycan, G.G. Job Objectives for M60A1AOS Tank Gunnery Compared To Proposed Training. Volume 1: Development and Results. Arlington, Virginia: U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), 1975.

Describes the need for sampling objectives for training and evaluation, and early efforts to map the gunnery domain.

2. Fingerman, P.W., Wheaton, G.R., and Boycan, G.G. Simulation of a Model Tank Gunnery Test. Alexandria, Virginia: U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), 1979.

3. Wheaton, G.R., Fingerman, P.W., and Boycan, G.G. Development of a Model Tank Gunnery Test. Alexandria, Virginia: U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), 1978.

Items 2 and 3 describe additional development of early work, with emphasis on simulation and varieties of tests matched with evaluation purposes.

4. Boldovici, J.A., Boycan, G.G., Fingerman, P.W., and Wheaton, G.R. Tank Gunnery Data Handbook. Washington, D.C.: American Institutes for Research in the Behavioral Sciences (AIR), 1978.

Gunnery objective pools for the M60A1(AOS).

5. Boldovici, J.A. Analyzing Tank Gunnery Engagements for Simulator-Based Process Measurement. Alexandria, Virginia: Human Resources Research Organization (HumRRO), 1978.

Describes the need and some analyses required for incorporating diagnostic capability in gunnery devices.

LAUNCH DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1
OBJECTIVE: 1A

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
NO	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	+	+	+	+	+
MAJFUNCTION	—	—	—	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

Figure 2. Sample display for objective 1A.

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 7

OBJECTIVE: 7C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	+	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	+	—	+
MALFUNCTION	—	—	+	—	+	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+
S	—	SIMUL	LONG (1501-3000)	+
		MULT		+
				VIS/TIS

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command: —

From start of fire command to finish of lay for direction: —

From Gunner "Identify" to select coax, lay, track: —

From finish of tracking to target suppression: —

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

Main Gun

Coax

.50 Caliber

Figure 3. Sample display for objective 7C.

Included on the display for each objective are the scoring criteria for both live fire and dry fire. No time standards have been established; however, the events of interest between which times should be recorded are stated. An accuracy standard of a target hit (main gun) or target suppression (machinegun) within a cost standard of two main gun rounds or 25 machinegun rounds is recommended for each objective.

These objectives were derived to allow for evaluator control for all three training groups in terms of weapon firing, conditions of the fire control system, the fire control mode, and the types of target and ranges for an engagement. The firing ranges for the XM1 pretest and posttest and for Group 1 firing must be set up so that the objectives can be fired as described. This involves arranging appropriate combinations of target types and ranges in specified numbers (single, simultaneous, multiple) at the various firing positions. At the same time, depending on the objective being fired, the evaluator must introduce the indicated malfunction(s) into the fire control system. The malfunction(s) should be introduced in such a way that the Gunner and TC will be unaware until the malfunction occurs at the "real world" point in the engagement sequence.

The remainder of this section describes the recommendations for conduct of the XM1 pretest, device pretest, training exercises, device posttest, and XM1 posttest for all three groups.

XM1 Pretest. The following objectives should be used as the content of the XM1 Pretest:

2A	19B
3A	24A
11C	25C
16B	28B
17C	30B

The crews should fire each objective only once and the times and aiming errors should be recorded (see Chapter 2).

Device Pretest. The following objectives should be used as the content of the Device Pretest:

1A	15B
4C	22C
5B	24B
9C	26C
11B	31A

The crews should fire each objective only once and the times and aiming errors should be recorded (see Chapter 2).

Training Exercises. All 93 objectives should be practiced in numerical order during the six hours available. However, a crew should practice an objective until it achieves mastery on the objective or fires the objective three times before proceeding to the next objective. The firing information that should be recorded is discussed in Chapter 2.

Device Posttest. In the interests of test security, the objectives recommended for device posttest will remain confidential until two weeks before the posttest. As for the device pretest, each objective should be fired only once and the information recorded.

XM1 Posttest. In the interests of test security, the objectives recommended for XM1 posttest will remain confidential until two weeks before the posttest. The procedure will be for each crew to fire an objective until achieving mastery (or until the objective is fired five times) before proceeding to the next objective on the posttest. All firing information should be recorded for each attempt.

CHAPTER TWO

DATA REQUIREMENTS

In order to evaluate the gunnery sustainment training program, data are needed in three areas:

- . Training Resource Requirements (Issue 2.1.4).
- . Training Effectiveness (Issue 2.1.1).
- . Training Transfer (Issue 2.1.3).

Training Resource Requirements

This information will be used to estimate the costs associated with developing and implementing each of the three training alternatives. The forms provided in Appendix C should be used to report the information. Explanations of the entries required for each form follow.

Personnel Requirements. This form should be completed for each person involved in setting up or running any part of the gunnery sustainment training program. Give the person's name, rank/grade, and primary MOS. Then for each function in which the person was involved (Planning, Development, Conduct, and/or Evaluation) and each training group for which the person performed that function (Group I, II, or III), place a P (Primary) or S (Support) in the column headed "Role" to indicate the person's responsibilities. In the column headed "Time" indicate the number of hours the person spent on that function/training group/role.

The functions are defined as follows:

- . Planning - scheduling, determining requirements for and obtaining personnel and equipment, logistics, etc.
- . Development - writing and review of lesson plans, scenarios, test materials, etc.
- . Conduct - actual training time.
- . Evaluation - pretesting and posttesting on XM1 and training alternative devices.

The three training groups are:

- . Group I - baseline training group, on XM1 tanks.
- . Group II - training on Chrysler UCFT.
- . Group III - training on GE UCFT.

The two roles are defined as follows:

- . Primary - directed or was responsible for major portions of the work in a given function.
- . Support - assisted or was under the supervision of someone in a primary role. If the person was not involved in a function for a training group, the corresponding lines in the "Role" and "Time" columns should be left blank.

If the effort is for more than one training group or function, record the hours in as many places as are applicable, and attach a note telling how many hours have been recorded in more than one place, and for which groups and functions they are recorded.

Crew Training Report Form. This form should be completed for each gunner/commander crew. The header portion requires the training group, the assigned crew number (any number up to three digits), name of each crewmember, the date each crewmember completed transition training on the XML, how long each has been in that crew position, and how many times they have fired together in those positions.

The body of the form is to be used to log the crew's activities during training. For each objective on which the crew receives training, record the date and time the crew started training on the objective, the date and time it was mastered, total number of attempts, and the total time spent on the objective. The objectives to be included in training, and the criteria for mastery, are discussed in Chapter 1 and included in Appendix B.

For Group I, trained on the XML tank, if the training is conducted as dry fire exercises, a gun camera that permits immediate feedback for scoring; aiming errors (deflection and elevation) on main gun engagements will be required so that the hit-miss judgment can be made in time to fire a second round. For live fire and for coaxial and .50 caliber engagements, the scoring will be based on hits or suppression, rather than deflection and elevation. Times will be determined to the nearest second with the aid of a stopwatch. For Groups II and III, trained on the Chrysler and GE UCFTs respectively, data required to determine mastery should be taken from performance analyses obtained

at the conclusion of each objective. The Gunnery Objective Scoresheet in Appendix C may be used to keep track of the crew's progress toward mastery. For each objective, a scoresheet should be prepared by completing the column headed "Mastery Standards" for the applicable criteria for the objective.

Training Effectiveness

Relative training effectiveness of the three alternative programs will be measured by means of comparisons between pre- and post-training test results. Each crew will be tested at both points on the device (XM1 tank, Chrysler UCFT, or GE UCFT) on which it receives gunnery sustainment training. The objectives which comprise the tests and the measurement requirements for each objective are discussed in Chapter 1.

Device pretest and posttest results for each crew should be recorded on the Gunnery Objective Scoresheets. The data are to be obtained as described above, with the aid of a gun camera (for dry fire) and a stopwatch for Group I, and from UCFT performance analyses for Groups II and III. Actual times (seconds), and aiming error (mils deflection and elevation or hit/suppression and rounds expended) should be recorded for each objective.

Training Transfer

The relative effectiveness of the three training alternatives in increasing proficiency on the XM1 tank (i.e., training transfer) will be expressed as the difference among the three training groups in number of trials needed to master certain task objectives. A pretest on the XM1 tank will be given before the device pretest, to determine entry level skills. The transfer test itself will be conducted after the device posttest, also on the XM1 tank. Conduct of the XM1 pretests and posttests is discussed in Chapter 1.

For the XM1 pretest, the measures should be recorded as for the device pretests and posttests. For the XM1 posttest, the measures should be recorded in the same way for each attempt of an objective by the crew. Each objective must be attempted until mastery is demonstrated on all criteria measures, or until five attempts are made.

APPENDIX A

XMI GUNNERY ENGAGEMENT CATEGORIES

ASSUMPTIONS/CONDITIONS
XM1 GUNNERY ENGAGEMENT CATEGORIES AND OBJECTIVES

The following assumptions/conditions regarding the XM1 fire control system apply to the engagements:

1. When GPS is the preferred sight, and TIS is also available, Visible/TIS is a visibility alternative. (Engagement Categories 1, 5, 9, 17, 20, 23, 25, 27, 30).
2. When TIS is the preferred sight, Visible/TIS is the visibility alternative. No other visibility level is required because all are subsumed by use of the TIS.
3. A TIS failure includes:
 - . no range data displayed
 - . no symbol data displayed
 - . no TIS reticle displayed

When the TIS fails and the LRF is operational, range with the LRF and check range manually (Engagement Categories 3, 7, 11).
4. An LRF failure refers only to the ranging capability, not the reticle projection.
5. When LEAD fails, target motion is described as Moving; troop targets and APERS ammunition are excluded.
6. GAS Battlesight (Engagement Categories 14, 16) is battlesight only to the extent that the Gunner uses battlesight GAS range lines (700, 1100, 1600). There is no preset battlerange with the GAS.
7. LRF, CROSSWIND, CANT are malfunctioning to the extent that GAS is used for Engagement Categories 12, 14, 15, 16, and manual cant and crosswind are applied and range is put in computer manually or battlesight is fired.
8. Precision gunnery is fired with own tank moving.
9. Emergency mode gunnery has no impact on coaxial machinegun firing.

XML
FIRE CONTROL SYSTEM

1. Red GPS day reticle pattern is generated in the LRF.
2. Target range data is provided by the LRF but generated in the TIS.
3. Ready-to-fire, multiple return, and malfunction are generated in the TIS.
4. For the GAS reticle:

- . use reticle range lines for precision
- . use reticle lead lines to lead target

GAS Ranges

HEAT 400-4400M
SABOT 800-2800M
HEP 350-2800M

GAS Battlesight Ranges

HEAT 1100M
SABOT 1600M
HEP 700M

- . battlesight corrections are given in target forms.
5. Automatic lead is used only in NORMAL mode; in other modes, manual lead must be applied.
 6. Lead angle sensor failure:
 - . lay GPS (GAS) on center of moving target and range
 - . apply lead, using lead lines in GPS (GAS), from center of mass of target in direction of movement.
 7. Laser rangefinder failure:
 - . manually index range data into computer
 - or . use GAS
 - or . use battlesight gunnery.
 8. GPS failure:
 - . use TIS; if out
 - . use GAS.

KEY TO ABBREVIATIONS

MG	Main Gun
COAX	Coaxial Machinegun
.50 CAL	.50 Caliber Machinegun
M	Moving
S	Stationary
STAB	Stabilization
NONSTAB	Nonstabilization
GPS	Gunner's Primary Sight
TIS	Thermal Imaging System
LRF	Laser Rangefinder
LEAD	Lead Angle Sensor
SIMUL	Simultaneous
MULT	Multiple
MED	Medium
VIS	Visible without artifical light (during daylight)
VIS/TIS	Visible with thermal imaging system

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1

OWN TANK						
<u>WEAPON</u>	<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
CCAX <u>+</u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u>+</u>						
	<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>	<u>CANT</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG. (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 2

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u> </u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 3

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 4

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS	<u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS	<u> </u>
	MULT <u>+</u>			

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 5

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 6

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u> </u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 7

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 8

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>		<u>RANGE</u>	<u>VIS</u>
M	<u>+</u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u> (.50 CAL)	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
					VIS/TIS <u> </u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 9

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 10

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>		<u>RANGE</u>	<u>VIS</u>
M	<u>+</u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u> (.50 CAL)	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
					VIS <u> </u>
					VIS/TIS <u>+</u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 11

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 12

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 13

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MAJFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 14

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>		<u>RANGE</u>	<u>VIS</u>
M	<u>+</u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u> (.50 CAL)	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
					VIS/TIS <u> </u>

FIRE DELIVERY METHOD: MANUAL PRECISION

ENGAGEMENT CATEGORY: 15

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u> </u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: MANUAL BATTLESIGHT

ENGAGEMENT CATEGORY: 16

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u> </u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 17

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>-</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>-</u>	NONSTAB	<u>-</u>	MANUAL <u>-</u>
150 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>-</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>-</u>	<u>-</u>	<u>+</u>	<u>-</u>	<u>-</u>	<u>-</u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>		<u>RANGE</u>	<u>VIS</u>
M	<u>+</u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u>	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
					VIS/TIS <u>+</u>

FARE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 18

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
.50 CAL.	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS	
S <u>+</u>	SINGLE <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS	<u>+</u>
	MULT <u>+</u>			

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 10

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
NC	<u>+</u>	M	<u>+</u>	STAR	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAR	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
N <u> </u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

WEAPON DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 20

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG _____	M	_____+	STAB	_____+	POWER	_____+
COAX _____	S	_____	NONSTAB	_____	MANUAL	_____
.50 CAL _____						
	CPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	_____+	_____+	_____	_____	_____+	_____+
MAJFUNCTION	_____	_____	_____+	_____+	_____	_____

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M _____	SINGLE _____+	MED (500-1500) _____+	VIS	_____+
S _____+.50 CAL)	STIMUL _____+	LONG (1501-3000) _____+	VIS/TIS	_____+
	MULT _____+			

PIPE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	-	M	+	STAB	+	POWER
COAX	+	S		NONSTAB		MANUAL
.50 CAL	+					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION						+
MAJFUNCTION	+			+	+	

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M	SINGLE	MED (500-1500)	VIS
S	SINGL	LONG (1501-3000)	VIS/TIS
	MULT		

ATTN: OBJECTIVE & METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 4

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
REL	+	M	+	STAB	+	POWER
CONK	+	S		NONSTAB		MANUAL
150 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+				+
REAL FUNCTION			+	+	+	

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
S	SINGLE	MED (500-1500)	+	VIS
S (150 CAL)	SINGLE	LONG (1501-3000)	+	TIS/TLS
	MULT		+	

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 13

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	N	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MAINFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

FIRE DELIVERY METHOD: NORMAL BATTLE SIGHT

ENGAGEMENT CATEGORY: 24

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
TO CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>
REFUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u> </u>	
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 25

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MC	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u> </u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>	
	MULT <u>+</u>			

WEAPON DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 76

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>
MAJUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>		<u>RANGE</u>	<u>VIS</u>
M	<u> </u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u> (50 CAL)	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
				VIS	<u> </u>
				VIS/TIS	<u>+</u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 27

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>
MAFUNCTION	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 28

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>
MALEFUNCTION		<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS	<u> </u>
S <u>+</u> (.50 (AL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS	<u>+</u>
	MULT <u>+</u>			

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 29

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET				
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>	
	MULT <u>+</u>			

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 30

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M	<u>+</u>	SINGLE	<u>+</u>	MED (500-1500)	<u>+</u>
S	<u>+</u> (.50 CAL)	SIMUL	<u>+</u>	LONG (1501-3000)	<u>+</u>
		MULT	<u>+</u>		
				VIS	<u>+</u>
				VIS/TIS	<u>+</u>

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT ENGAGEMENT CATEGORY: 31

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u> </u>	STAB	<u> </u>	POWER <u> + </u>
COAX	<u>+</u>	S	<u> + </u>	NONSTAB	<u> + </u>	MANUAL <u> </u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u> </u>	<u> + </u>	<u> </u>	<u> </u>	<u> + </u>
MALFUNCTION		<u> + </u>	<u> </u>	<u> + </u>	<u> + </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u> + </u>	SINGLE <u> + </u>	MED (500-1500) <u> + </u>	VIS <u> </u>
S <u> + </u> (.50 CAL)	SIMUL <u> + </u>	LONG (1501-3000) <u> + </u>	VIS/TIS <u> + </u>
	MULT <u> + </u>		

APPENDIX B
XM1 GUNNERY OBJECTIVES

KEY TO ABBREVIATIONS

MG	Main Gun
COAX	Coaxial Machinegun
.50 CAL	.50 Caliber Machinegun
M	Moving
S	Stationary
STAB	Stabilization
NONSTAB	Nonstabilization
GPS	Gunner's Primary Sight
TIS	Thermal Imaging System
LRF	Laser Rangefinder
LEAD	Lead Angle Sensor
SIMUL	Simultaneous
MULT	Multiple
MED	Medium
VIS	Visible without artifical light (during daylight)
VIS/TIS	Visible with thermal imaging system

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1

OBJECTIVE: 1A

OWN TANK						
WEAPON	TANK MOTION	TURRET	CONTROLS			
MG <u>+</u>	M <u>+</u>	STAB <u>+</u>	POWER <u>+</u>			
COAX <u> </u>	S <u> </u>	NONSTAB <u> </u>	MANUAL <u> </u>			
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MAIFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u> </u>	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
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From target exposure to start of initial fire command: From start of fire command to finish of lay for direction: From Gunner "Identify" to select ammo, lay, track, and lase: From Gunner "Not Identified" to select ammo, lay, track, and lase: From TC "Fire" to first round fired: From TC completion of lase to first round fired: From first round impact to second round fired (if first round miss): or .50 Caliber EngagementsFrom target exposure to target suppression: Coax EngagementsFrom target exposure to start of fire command: From start of fire command to finish of lay for direction: From Gunner "Identify" to select coax, lay, track: From finish of tracking to target suppression:

AIMING ERROR

Dry Fire-Main GunFirst RoundSecond RoundDeflection error from center of mass (Precision): mils mils milsElevation error from center of mass (Precision): mils mils milsDeflection error from base of target (Battlesight): mils mils milsElevation error from base of target (Battlesight): mils mils milsLive Fire-Main Gun, Coax, .50 CaliberRoundsMain Gun Coax .50 Caliber

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 3

OBJECTIVE: 1B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
COAX <u>+</u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MAJFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u> (MG)	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (COAX)	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	
From TC "Fire" to first round fired:	<u> </u>	
From TC completion of lase to first round fired:	<u> </u>	
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select coax, lay, track:	<u> </u>	
From finish of tracking to target suppression:	<u> </u>	
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 1

OBJECTIVE: 1C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+	+	+
MALFUNCTION		—	—	—	—	—

TARGET				
TGT MOTION		TGT NUMBER	RANGE	VIS
M	+	SINGLE	MED (500-1500)	+
S	+	SIMUL	LONG (1501-3000)	+
		MULT		
				VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

	TC	GNR
From target exposure to target suppression:	—	—

Coax Engagements

	TC	GNR
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 2
OBJECTIVE: 2A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	___	S	___	NONSTAB	___	MANUAL
.50 CAL	___					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		___	+	+	+	+
MALFUNCTION		+	___	___	___	___

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	VIS
S	___	LONG (1501-3000)	+
	SIMUL	___	VIS/TIS
	MULT	___	+

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	___	
From start of fire command to finish of lay for direction:	___	
From Gunner "Identify" to select ammo, lay, track, and lase:	___	___
From Gunner "Not Identified" to select ammo, lay, track, and lase:	___	
From TC "Fire" to first round fired:	___	___
From TC completion of lase to first round fired:	___	
From first round impact to second round fired (if first round miss):	___	or ___

.50 Caliber Engagements

From target exposure to target suppression:	___
---	-----

Coax Engagements

From target exposure to start of fire command:	___
From start of fire command to finish of lay for direction:	___
From Gunner "Identify" to select coax, lay, track:	___
From finish of tracking to target suppression:	___

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	___ mils	___ mils
Elevation error from center of mass (Precision):	___ mils	___ mils
Deflection error from base of target (Battlesight):	___ mils	___ mils
Elevation error from base of target (Battlesight):	___ mils	___ mils

Live Fire-Main Gun, Coax, .50 Caliber

	<u>Rounds</u>
Main Gun	___
Coax	___
.50 Caliber	___

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 2

OBJECTIVE: 2B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		—	+	+	+	+
MALFUNCTION		+	—	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	SINGLE	—
S	—	SIMUL	—
		MULT	+
		MED (500-1500)	+
		LONG (1501-3000)	+
		VIS	—
		VIS/TIS	+

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 2

OBJECTIVE: 2C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	___	M	+	STAB	+	POWER
COAX	+	S	___	NONSTAB	___	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+	+	+
MALFUNCTION	+	___	___	___	___	___

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	SINGLE	MED (500-1500)	+	VIS
S	SIMUL	LONG (1501-3000)	___	VIS/TIS
	MULT			+

CRITERIA

TIME (Seconds)			
	TC	GNR	
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:	___	___	
From start of fire command to finish of lay for direction:	___	___	
From Gunner "Identify" to select ammo, lay, track, and lase:	___	___	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	___	___	
From TC "Fire" to first round fired:	___	___	
From TC completion of lase to first round fired:	___	___	
From first round impact to second round fired (if first round miss):	___	or ___	
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:	___	___	
<u>Coax Engagements</u>			
From target exposure to start of fire command:	___	___	
From start of fire command to finish of lay for direction:	___	___	
From Gunner "Identify" to select coax, lay, track:	___	___	
From finish of tracking to target suppression:	___	___	
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>	
Deflection error from center of mass (Precision):	___ mils	___ mils	
Elevation error from center of mass (Precision):	___ mils	___ mils	
Deflection error from base of target (Battlesight):	___ mils	___ mils	
Elevation error from base of target (Battlesight):	___ mils	___ mils	
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>		
Main Gun	___		
Coax	___		
.50 Caliber	___		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 3

OBJECTIVE: 3A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M <u>+</u>	SINGLE <u> </u>	MED (500-1500)	<u>+</u>	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000)	<u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>			

CRITERIA

TIME (Seconds)		TC	GNR
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:		<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:		<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:		<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:		<u> </u>	<u> </u>
From TC "Fire" to first round fired:		<u> </u>	<u> </u>
From TC completion of lase to first round fired:		<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):		<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:		<u> </u>	<u> </u>
<u>Coax Engagements</u>			
From target exposure to start of fire command:		<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:		<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:		<u> </u>	<u> </u>
From finish of tracking to target suppression:		<u> </u>	<u> </u>
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>	
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils	
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils	
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils	
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils	
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>		
Main Gun	<u> </u>		
Coax	<u> </u>		
.50 Caliber	<u> </u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 3

OBJECTIVE: 3B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	___	M	+	STAB	+	POWER
COAX	+	S	___	NONSTAB	___	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	___	+	+	+
MALFUNCTION		___	+	___	___	___

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	___	___
From start of fire command to finish of lay for direction:	___	___
From Gunner "Identify" to select ammo, lay, track, and lase:	___	___
From Gunner "Not Identified" to select ammo, lay, track, and lase:	___	___
From TC "Fire" to first round fired:	___	___
From TC completion of lase to first round fired:	___	___
From first round impact to second round fired (if first round miss):	___	or ___

.50 Caliber Engagements

From target exposure to target suppression: ___

Coax Engagements

From target exposure to start of fire command: ___

From start of fire command to finish of lay for direction: ___

From Gunner "Identify" to select coax, lay, track: ___

From finish of tracking to target suppression: ___

AIMING ERROR

Dry Fire-Main Gun

Deflection error from center of mass (Precision): ___ mils

Elevation error from center of mass (Precision): ___ mils

Deflection error from base of target (Battlesight): ___ mils

Elevation error from base of target (Battlesight): ___ mils

Live Fire-Main Gun, Coax, .50 Caliber

Main Gun

Coax

.50 Caliber

First Round

Second Round

___ mils

___ mils

___ mils

___ mils

Rounds

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 3

OBJECTIVE: 3C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u>+</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>—</u> or <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 4

OBJECTIVE: 4A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u>or</u> <u> </u>

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>
From finish of tracking to target suppression:	<u> </u>

AIMING ERROR

Dry Fire-Main Gun

	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	<u>Rounds</u>
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 4

OBJECTIVE: 4B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	—	+	+	+	+
MALFUNCTION	—	+	—	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:

From start of fire command to finish of lay for direction:

From Gunner "Identify" to select coax, lay, track:

From finish of tracking to target suppression:

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
Live Fire-Main Gun, Coax, .50 Caliber	Rounds	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 4

OBJECTIVE: 4C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	+	+	+
MALFUNCTION	—	—	+	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 5

OBJECTIVE: 5A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>
From TC "Fire" to first round fired:	<u> </u>
From TC completion of lase to first round fired:	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	<u> </u>
<u>Coax Engagements</u>	
From target exposure to start of fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>
From finish of tracking to target suppression:	<u> </u>
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 5

OBJECTIVE: 5B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
.50 CAL	<u>+</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u> (MS)	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>+</u>	<u>+</u>
From start of fire command to finish of lay for direction:	<u>+</u>	<u>+</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>+</u>	<u>+</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>+</u>	<u>+</u>
From TC "Fire" to first round fired:	<u>+</u>	<u>+</u>
From TC completion of lase to first round fired:	<u>+</u>	<u>+</u>
From first round impact to second round fired (if first round miss):	<u>+</u>	<u>+</u> or <u>+</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>+</u>	<u>+</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>+</u>	<u>+</u>
From start of fire command to finish of lay for direction:	<u>+</u>	<u>+</u>
From Gunner "Identify" to select coax, lay, track:	<u>+</u>	<u>+</u>
From finish of tracking to target suppression:	<u>+</u>	<u>+</u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>+</u> mils	<u>+</u> mils
Elevation error from center of mass (Precision):	<u>+</u> mils	<u>+</u> mils
Deflection error from base of target (Battlesight):	<u>+</u> mils	<u>+</u> mils
Elevation error from base of target (Battlesight):	<u>+</u> mils	<u>+</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>+</u>	
Coax	<u>+</u>	
.50 Caliber	<u>+</u>	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 5

OBJECTIVE: 5C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
NG	+	M	+	STAB	+	POWER
COAX	+	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRP	LEAD	CROSSWIND
FUNCTION		+	+	+	—	+
MAJFUNCTION		—	—	—	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	SINGLE	—
S	—	SIMUL	—
		MULT	+
		MED (500-1500)	+
		LONG (1501-3000)	+
		VIS	+
		VIS/TIS	—

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:	—	
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:	—	
From finish of tracking to target suppression:	—	
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 6
OBJECTIVE: 6A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION		<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u> </u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	<u> </u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 6

OBJECTIVE: 6B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+	+	+
MALEFUNCTION		+	+	+	+	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE +	MED (500-1500)	VIS
S —	SIMUL —	LONG (1501-3000) +	VIS/TIS +
	MULT —		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 6

OBJECTIVE: 6C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u> + </u>	M <u> + </u>		STAB <u> + </u>		POWER <u> + </u>	
COAX <u> </u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u> + </u>						
	<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>	<u>CANT</u>
FUNCTION	<u> </u>	<u> + </u>	<u> + </u>	<u> </u>	<u> + </u>	<u> + </u>
MALFUNCTION	<u> + </u>	<u> </u>	<u> </u>	<u> + </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u> + </u> (MG)	SINGLE <u> </u>	MED (500-1500) <u> + </u>	VIS <u> </u>
S <u> + </u> (.50 CAL)	SIMUL <u> + </u>	LONG (1501-3000) <u> </u>	VIS/TIS <u> + </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)		
	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> or </u> <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	<u> </u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 7
OBJECTIVE: 7A

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

<u>TIME (Seconds)</u>		<u>TC</u>	<u>GNR</u>
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:		<u> </u>	
From start of fire command to finish of lay for direction:		<u> </u>	
From Gunner "Identify" to select ammo, lay, track, and lase:		<u> </u>	
From Gunner "Not Identified" to select ammo, lay, track, and lase:		<u> </u>	
From TC "Fire" to first round fired:		<u> </u>	
From TC completion of lase to first round fired:		<u> </u>	
From first round impact to second round fired (if first round miss):		<u> </u>	<u>or</u> <u> </u>
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:		<u> </u>	
<u>Coax Engagements</u>			
From target exposure to start of fire command:		<u> </u>	
From start of fire command to finish of lay for direction:		<u> </u>	
From Gunner "Identify" to select coax, lay, track:		<u> </u>	
From finish of tracking to target suppression:		<u> </u>	
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>	
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils	
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils	
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils	
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils	
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>		
Main Gun	<u> </u>		
Coax	<u> </u>		
.50 Caliber	<u> </u>		

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 7

OBJECTIVE: 7B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	+	—	+
MALFUNCTION	—	—	+	—	+	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M + (MG)	SINGLE	MED (500-1500)	+	VIS
S + (.50 CAL)	SIMUL	LONG (1501-3000)	—	VIS/TIS
	MULT			

CRITERIA

TIME (Seconds)		
	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 7
OBJECTIVE: 7C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	+	S		NONSTAB		MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+		+		+
MALFUNCTION			+		+	

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+	VIS
S		SIMUL	LONG (1501-3000)	+	VIS/TIS
		MULT			

CRITERIA

TIME (Seconds)		TC	GNR
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:			
From start of fire command to finish of lay for direction:			
From Gunner "Identify" to select ammo, lay, track, and lase:			
From Gunner "Not Identified" to select ammo, lay, track, and lase:			
From TC "Fire" to first round fired:			
From TC completion of lase to first round fired:			
From first round impact to second round fired (if first round miss):			or
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:			
<u>Coax Engagements</u>			
From target exposure to start of fire command:			
From start of fire command to finish of lay for direction:			
From Gunner "Identify" to select coax, lay, track:			
From finish of tracking to target suppression:			
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>		<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):		_____ mils	_____ mils
Elevation error from center of mass (Precision):		_____ mils	_____ mils
Deflection error from base of target (Battlesight):		_____ mils	_____ mils
Elevation error from base of target (Battlesight):		_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		<u>Rounds</u>	
Main Gun		_____	
Coax		_____	
.50 Caliber		_____	

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 8

OBJECTIVE: 8A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	+	S		NONSTAB		MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+		+		+
MALFUNCTION			+		+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:

From start of fire command to finish of lay for direction:

From Gunner "Identify" to select coax, lay, track:

From finish of tracking to target suppression:

AIMING ERROR

Dry Fire-Main Gun

Deflection error from center of mass (Precision):

Elevation error from center of mass (Precision):

Deflection error from base of target (Battlesight):

Elevation error from base of target (Battlesight):

Live Fire-Main Gun, Coax, .50 Caliber

Main Gun

Coax

.50 Caliber

First RoundSecond Round

mils

mils

mils

mils

mils

mils

mils

mils

Rounds

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 8

OBJECTIVE: 8B

OWN TANK						
WEAPON	TANK MOTION	TURRET	CONTROLS			
MG <u>+</u>	M <u>+</u>	STAB <u>+</u>	POWER <u>+</u>			
COAX <u>—</u>	S <u>—</u>	NONSTAB <u>—</u>	MANUAL <u>—</u>			
.50 CAL <u>—</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>—</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>—</u> or <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: NORMAL BATTLESIGHT

ENGAGEMENT CATEGORY: 8
OBJECTIVE: 8C

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>			<u>+</u>		<u>+</u>
MALFUNCTION	<u>—</u>		<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>

TARGET					
<u>TGT MOTION</u>		<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>	
M	<u>+</u> (MG)	SINGLE <u>—</u>	MED (500-1500)	<u>+</u>	VIS <u>+</u>
S	<u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000)	<u>+</u>	VIS/TIS <u>—</u>
		MULT <u>—</u>			

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>or</u> <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 9
OBJECTIVE: 9A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>—</u>	STAB	<u>—</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	<u>+</u>	SINGLE <u>—</u>	MED (500-1500)	<u>+</u>	VIS <u>+</u>
S	<u>—</u>	SIMUL <u>—</u>	LONG (1501-3000)	<u>+</u>	VIS/TIS <u>—</u>
		MULT <u>+</u>			

CRITERIA

TIME (Seconds)Main Gun Engagements

	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>or</u> <u>—</u>

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERRORDry Fire-Main Gun

	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	<u>Rounds</u>
Main Gun	<u>—</u>
Coax	<u>—</u>
.50 Caliber	<u>—</u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 9

OBJECTIVE: 9B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER +
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+		+
MALFUNCTION					+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE	MED (500-1500)	+
S + (.50 CAL)	SIMUL +	LONG (1501-3000)	+
	MULT		
			VIS/TIS +

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 9

OBJECTIVE: 9C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER +
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+		+
MAJFUNCTION					+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE +	MED (500-1500)	VIS
S --	SIMUL	LONG (1501-3000) +	VIS/TIS +
	MULT		

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	
From start of fire command to finish of lay for direction:	
From Gunner "Identify" to select ammo, lay, track, and lase:	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	
From TC "Fire" to first round fired:	
From TC completion of lase to first round fired:	
From first round impact to second round fired (if first round miss):	or
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	
<u>Coax Engagements</u>	
From target exposure to start of fire command:	
From start of fire command to finish of lay for direction:	
From Gunner "Identify" to select coax, lay, track:	
From finish of tracking to target suppression:	
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	mils mils
Elevation error from center of mass (Precision):	mils mils
Deflection error from base of target (Battlesight):	mils mils
Elevation error from base of target (Battlesight):	mils mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	
Coax	
.50 Caliber	

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 10

OBJECTIVE: 10A

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
COAX <u>+</u>	S <u>+</u>		NONSTAB <u>+</u>		MANUAL <u>+</u>	
.50 CAL <u>+</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MAJFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 10

OBJECTIVE: 10B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MC	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>+</u>
.50 CAL	<u>+</u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	<u>TC</u> <u>GNR</u>
From target exposure to start of initial fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>
From TC "Fire" to first round fired:	<u> </u>
From TC completion of lase to first round fired:	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	<u> </u>
<u>Coax Engagements</u>	
From target exposure to start of fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>
From finish of tracking to target suppression:	<u> </u>
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	<u>First Round</u> <u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 10

OBJECTIVE: 10C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		—	+	+	—	+
MALFUNCTION		+	—	—	+	—

TARGET				
TGT MOTION		TGT NUMBER	RANGE	VIS
M	+	SINGLE	MED (500-1500)	+
S	+	SIMUL	LONG (1501-3000)	+
	(.50 CAL)	MULT		
				VIS
				VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 11

OBJECTIVE: 11A

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>—</u>		STAB <u>—</u>		POWER <u>+</u>	
COAX <u>—</u>	S <u>+</u>		NONSTAB <u>+</u>		MANUAL <u>—</u>	
.50 CAL <u>—</u>						
	<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>	<u>CANT</u>
FUNCTION <u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION <u>—</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>—</u>	VIS <u>+</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	or <u>—</u>

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	<u>—</u>
Coax	<u>—</u>
.50 Caliber	<u>—</u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 11

OBJECTIVE: 11B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	+	S	+	NONSTAB	+	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	+	—	+
MALFUNCTION	—	—	+	—	+	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+
S	—	SIMUL	LONG (1501-3000)	—
		MULT		+
			VIS	+
			VIS/TIS	—

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—
From TC "Fire" to first round fired:	—
From TC completion of lase to first round fired:	—
From first round impact to second round fired (if first round miss):	— or —
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	—
<u>Coax Engagements</u>	
From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	— mils — mils
Elevation error from center of mass (Precision):	— mils — mils
Deflection error from base of target (Battlesight):	— mils — mils
Elevation error from base of target (Battlesight):	— mils — mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 11

OBJECTIVE: 11C

OWN TANK						
WEAPON	TANK MOTION	TURRET	CONTROLS			
MG <u>+</u>	M <u>—</u>	STAB <u>—</u>	POWER <u>+</u>			
COAX <u>—</u>	S <u>+</u>	NONSTAB <u>+</u>	MANUAL <u>—</u>			
.50 CAL <u>+</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>—</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>—</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>—</u> or <u>—</u>

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command:	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	<u>—</u>
Coax	<u>—</u>
.50 Caliber	<u>—</u>

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 12

OBJECTIVE: 12A

OWN TANK						
WEAPON	TANK MOTION	TURRET	CONTROLS			
MG <u>+</u>	M <u>+</u>	STAB <u>+</u>	POWER <u>+</u>			
COAX <u>+</u>	S <u>+</u>	NONSTAB <u>+</u>	MANUAL <u>+</u>			
.50 CAL <u>+</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	_____ or _____

.50 Caliber Engagements

From target exposure to target suppression: _____

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 12

OBJECTIVE: 12B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>—</u>	STAB	<u>—</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION						
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>—</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>—</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>—</u> or <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: EMERGENCY PRECISION

ENGAGEMENT CATEGORY: 12

OBJECTIVE: 12C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB		POWER <u>+</u>	
COAX <u>+</u>	S <u>+</u>		NONSTAB <u>+</u>		MANUAL <u>+</u>	
.50 CAL <u>+</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u> </u> Rounds	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 13

OBJECTIVE: 13A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	+	—	+
MALFUNCTION	—	—	+	—	+	—

TARGET				
TGT MOTION		TGT NUMBER	RANGE	VIS
M	+	SINGLE	MED (500-1500)	+
S	—	SIMUL	LONG (1501-3000)	+
		MULT		+
				VIS/TIS

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 13

OBJECTIVE: 13 B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	—	—	—
MALFUNCTION	—	—	+	—	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	SINGLE	+
S	—	SIMUL	—
		MULT	—
		MED (500-1500)	—
		LONG (1501-3000)	+
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impa... to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 13

OBJECTIVE: 13C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	_____	M	_____	STAB	_____	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL _____
.50 CAL	<u>+</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	_____	_____	<u>+</u>	_____	<u>+</u>
MALFUNCTION	_____	<u>+</u>	_____	<u>+</u>	_____	_____

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE _____	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) _____	VIS/TIS _____
	MULT _____		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	
From TC "Fire" to first round fired:	_____	
From TC completion of lase to first round fired:	_____	
From first round impact to second round fired (if first round miss):	_____ or _____	
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	_____	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select coax, lay, track:	_____	
From finish of tracking to target suppression:	_____	
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 14

OBJECTIVE: 14A

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)

	<u>TC</u>	<u>GNR</u>
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 14

OBJECTIVE: 14B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION						CANT
MALFUNCTION		+	+	+	+	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		+
			VIS/TIS

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	
From TC "Fire" to first round fired:	_____	
From TC completion of lase to first round fired:	_____	
From first round impact to second round fired (if first round miss):	_____	or _____
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	_____	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select coax, lay, track:	_____	
From finish of tracking to target suppression:	_____	

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

FIRE DELIVERY METHOD: EMERGENCY BATTLESIGHT

ENGAGEMENT CATEGORY: 14

OBJECTIVE: 14C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB		POWER	+
COAX	S	+	NONSTAB	+	MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION	+	+	+	+	+	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M + (COAX)	SINGLE	MED (500-1500)	+
S + (.50 CAL)	SIMUL	LONG (1501-3000)	+
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	or _____

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: MANUAL PRECISION

ENGAGEMENT CATEGORY: 15
OBJECTIVE: 15A

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u> </u>		STAB		POWER	<u> </u>
COAX <u> </u>	S <u>+</u>		NONSTAB	<u>+</u>	MANUAL	<u>+</u>
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500)	VIS <u> </u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	<u> </u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: MANUAL PRECISION

ENGAGEMENT CATEGORY: 15

OBJECTIVE: 15B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u> </u>		STAB		POWER	
COAX <u> </u>	S <u>+</u>		NONSTAB	<u>+</u>	MANUAL	<u>+</u>
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	
From TC "Fire" to first round fired:	<u> </u>	
From TC completion of lase to first round fired:	<u> </u>	
From first round impact to second round fired (if first round miss):	<u> </u>	or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select coax, lay, track:	<u> </u>	
From finish of tracking to target suppression:	<u> </u>	

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: MANUAL PRECISION

ENGAGEMENT CATEGORY: 15

OBJECTIVE: 15C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB		POWER	
COAX	S		NONSTAB		MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION						

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE	MED (500-1500)	VIS
S + (.50 CAL)	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	_____ or _____

.50 Caliber Engagements

From target exposure to target suppression: _____

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: MANUAL BATTLESIGHT

ENGAGEMENT CATEGORY: 16

OBJECTIVE: 16A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION						CANT
MALFUNCTION		+	+	+	+	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	VIS
S		LONG (1501-3000)	+
	SINGLE		+
	SIMUL		
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	_____ or _____

.50 Caliber Engagements

From target exposure to target suppression: _____

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: MANUAL BATTLESIGHT

ENGAGEMENT CATEGORY: 16

OBJECTIVE: 16B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u> </u>		STAB <u> </u>		POWER <u> </u>	
COAX <u> </u>	S <u>+</u>		NONSTAB <u>+</u>		MANUAL <u>+</u>	
.50 CAL <u> </u>						
	<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>	<u>CANT</u>
FUNCTION	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u>+</u>	
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u> </u>	
	MULT <u>+</u>			

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	<u>TC</u> <u>GNR</u>
From target exposure to start of initial fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>
From TC "Fire" to first round fired:	<u> </u>
From TC completion of lase to first round fired:	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	<u> </u>
<u>Coax Engagements</u>	
From target exposure to start of fire command:	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>
From finish of tracking to target suppression:	<u> </u>
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	<u>First Round</u> <u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils <u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils <u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: MANUAL BATTLESIGHT

ENGAGEMENT CATEGORY: 16

OBJECTIVE: 16C

OWN TANK						
WEAPON	TANK MOTION	TURRET	CONTROLS			
MG <u>+</u>	M <u> </u>	STAB <u> </u>	POWER <u> </u>			
COAX <u> </u>	S <u>+</u>	NONSTAB <u>+</u>	MANUAL <u>+</u>			
.50 CAL <u>+</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION						
MALFUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u> (.50 CAL)	SIMUL <u>+</u>	LONG (1501-3000) <u> </u>	VIS/TIS <u> </u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 17

OBJECTIVE: 17A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	+	—	+	+	+
MALFUNCTION	—	—	+	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE +	MED (500-1500)	VIS +
S —	SIMUL —	LONG (1501-3000) +	VIS/TIS —
	MULT —		

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 17

OBJECTIVE: 17B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	—	+	+
MALFUNCTION		—	—	+	—	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+
S	+	SIMUL	LONG (1501-3000)	+
		MULT		+
			VIS	—
			VIS/TIS	+

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 17

OBJECTIVE: 17C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB	+	POWER	+
COAX	S	+	NONSTAB		MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	+		+	+	+
MALFUNCTION			+			

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	
	MULT		
			VIS
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	_____ or _____

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 18

OBJECTIVE: 18A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	+	S		NONSTAB		MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION			+		+	
MALFUNCTION		+		+		+

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	+	SINGLE		
S		SIMUL		
		MULT	+	
		MED (500-1500)	+	VIS
		LONG (1501-3000)	+	VIS/TIS
				+

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	or _____
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	_____	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	_____	
From start of fire command to finish of lay for direction:	_____	
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 18

OBJECTIVE: 18B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		—	+	—	+	+
MALFUNCTION		+	—	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—
From TC "Fire" to first round fired:	—
From TC completion of lase to first round fired:	—
From first round impact to second round fired (if first round miss):	— or —
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	—
<u>Coax Engagements</u>	
From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	— mils — mils
Elevation error from center of mass (Precision):	— mils — mils
Deflection error from base of target (Battlesight):	— mils — mils
Elevation error from base of target (Battlesight):	— mils — mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: NORMAL PRECISION

ENGAGEMENT CATEGORY: 18

OBJECTIVE: 18C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	+	+	+
MALFUNCTION		+	—	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	—
S	—	LONG (1501-3000)	+
	SINGLE	+	VIS
	SIMUL	—	VIS/TIS
	MULT	—	+

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:	—	
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:	—	
From finish of tracking to target suppression:	—	
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 19

OBJECTIVE: 19A

OWN TANK						
WEAPON	TANK MOTION	TURRET		CONTROLS		
MG <u>+</u>	M <u>+</u>	STAB <u>+</u>		POWER <u>+</u>		
COAX <u>—</u>	S <u>—</u>	NONSTAB <u>—</u>		MANUAL <u>—</u>		
.50 CAL <u>—</u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION <u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION <u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>—</u>	VIS <u>+</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>or</u> <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select coax, lay, track:		<u>—</u>
From finish of tracking to target suppression:		<u>—</u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 19

OBJECTIVE: 19B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>—</u>

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	<u>+</u>	SINGLE <u>—</u>	MED (500-1500)	<u>+</u>	VIS <u>+</u>
S	<u>+</u>	SIMUL <u>—</u>	LONG (1501-3000)	<u>+</u>	VIS/TIS <u>—</u>
		MULT <u>+</u>			

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	or <u>—</u>

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	<u>—</u>
Coax	<u>—</u>
.50 Caliber	<u>—</u>

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 19

OBJECTIVE: 19C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	—	—	+	+	+
MALFUNCTION	—	+	+	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	Rounds	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 20

OBJECTIVE: 20A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>+</u>	MED (500-1500) <u>—</u>	VIS <u>—</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u> or <u>—</u>
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	<u>—</u>
<u>Coax Engagements</u>	
From target exposure to start of fire command:	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	<u>—</u> mils <u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils <u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils <u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils <u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	<u>—</u>
Coax	<u>—</u>
.50 Caliber	<u>—</u>

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 20

OBJECTIVE: 20B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	+	—	—	+	+
MALFUNCTION	—	—	+	+	—	—

TARGET					
TGT MOTION	TGT NUMBER	RANGE	VIS		
M + (Coax)	SINGLE	MED (500-1500)	+	VIS	+
S + (.50 Cal)	SIMUL	LONG (1501-3000)	—	VIS/TIS	—
	MULT				

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 20
OBJECTIVE: 20C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>—</u>	MED (500-1500) <u>+</u>	VIS <u>—</u>
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	or <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 21
OBJECTIVE: 21A

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
COAX <u> </u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500)	VIS <u> </u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	<u> </u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 21

OBJECTIVE: 21B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	—	—	+	—	—	+
MALFUNCTION	+	—	—	+	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	VIS
S	—	LONG (1501-3000)	+
	SINGLE	+	VIS/TIS
	SIMUL	—	+
	MULT	—	

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 21
OBJECTIVE: 21C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	—	+	—	—	+	+
MAFUNCTION	+	—	+	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE	MED (500-1500)	+
S + (.50 Cal)	SIMUL +	LONG (1501-3000)	—
	MULT		—
			VIS
			VIS/TIS +

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—
From TC "Fire" to first round fired:	—
From TC completion of lase to first round fired:	—
From first round impact to second round fired (if first round miss):	— or —
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	—
<u>Coax Engagements</u>	
From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	— mils — mils
Elevation error from center of mass (Precision):	— mils — mils
Deflection error from base of target (Battlesight):	— mils — mils
Elevation error from base of target (Battlesight):	— mils — mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 22

OBJECTIVE: 22A

OWN TANK						
<u>WEAPON</u>		<u>TANK MOTION</u>		<u>TURRET</u>		<u>CONTROLS</u>
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		<u>GPS</u>	<u>TIS</u>	<u>LRF</u>	<u>LEAD</u>	<u>CROSSWIND</u>
FUNCTION	+	—	—	—	—	+
MAJFUNCTION	—	+	+	+	—	—

TARGET			
<u>TGT MOTION</u>	<u>TGT NUMBER</u>	<u>RANGE</u>	<u>VIS</u>
M	+	MED (500-1500)	VIS
S	—	LONG (1501-3000)	+
	SIMUL	—	VIS/TIS
	MULT	—	—

CRITERIA

TIME (Seconds)		TC	GNR
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:		—	
From start of fire command to finish of lay for direction:		—	
From Gunner "Identify" to select ammo, lay, track, and lase:		—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:		—	
From TC "Fire" to first round fired:		—	
From TC completion of lase to first round fired:		—	
From first round impact to second round fired (if first round miss):		—	or —
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:		—	
<u>Coax Engagements</u>			
From target exposure to start of fire command:		—	
From start of fire command to finish of lay for direction:		—	
From Gunner "Identify" to select coax, lay, track:			—
From finish of tracking to target suppression:			—
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>	
Deflection error from center of mass (Precision):	— mils	— mils	
Elevation error from center of mass (Precision):	— mils	— mils	
Deflection error from base of target (Battlesight):	— mils	— mils	
Elevation error from base of target (Battlesight):	— mils	— mils	
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>		
Main Gun	—		
Coax	—		
.50 Caliber	—		

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 22

OBJECTIVE: 22B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	+	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	—	—	+
MALFUNCTION	—	+	+	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		+
			VIS
			VIS/TIS

CRITERIA

TIME (Seconds)	
<u>Main Gun Engagements</u>	TC GNR
From target exposure to start of initial fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—
From TC "Fire" to first round fired:	—
From TC completion of lase to first round fired:	—
From first round impact to second round fired (if first round miss):	— or —
<u>.50 Caliber Engagements</u>	
From target exposure to target suppression:	—
<u>Coax Engagements</u>	
From target exposure to start of fire command:	—
From start of fire command to finish of lay for direction:	—
From Gunner "Identify" to select coax, lay, track:	—
From finish of tracking to target suppression:	—
<u>AIMING ERROR</u>	
<u>Dry Fire-Main Gun</u>	First Round Second Round
Deflection error from center of mass (Precision):	— mils — mils
Elevation error from center of mass (Precision):	— mils — mils
Deflection error from base of target (Battlesight):	— mils — mils
Elevation error from base of target (Battlesight):	— mils — mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Normal Precision

ENGAGEMENT CATEGORY: 22

OBJECTIVE: 22C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	—	—	—	—	+
MALFUNCTION	—	+	+	+	—	—

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+	VIS
S	+	SIMUL	LONG (1501-3000)	—	VIS/TIS
	(.50 Cal)	MULT			

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:	—	
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:	—	
From finish of tracking to target suppression:	—	

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 23

OBJECTIVE: 23A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>+</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>—</u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u>—</u>	MED (500-1500) <u>+</u>	VIS <u>+</u>
S <u>+</u>	SIMUL <u>+</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>—</u>
	MULT <u>—</u>		

CRITERIA

TIME (Seconds)

	<u>TC</u>	<u>GNR</u>
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>or</u> <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 23

OBJECTIVE: 23B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	+	—	+	+	+
MALFUNCTION	—	—	+	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:	—	
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:	—	
From finish of tracking to target suppression:	—	

AIMING ERROR

<u>Dry Fire-Main Gun</u>	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 23

OBJECTIVE: 23C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
COAX <u>+</u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION <u>+</u>	<u>+</u>	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION <u> </u>	<u> </u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500)	VIS <u> </u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	
From start of fire command to finish of lay for direction:	<u> </u>	
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u> </u>	
Coax	<u> </u>	
.50 Caliber	<u> </u>	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 24

OBJECTIVE: 24A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRP	LEAD	CROSSWIND
FUNCTION			+		+	
MALFUNCTION	+		—	+	—	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	SINGLE	—
S	—	SIMUL	—
		MULT	+
		MED (500-1500)	+
		LONG (1501-3000)	+
			VIS
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	Rounds	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 24

OBJECTIVE: 24B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u> </u>	S	<u> </u>	NONSTAB	<u> </u>	MANUAL <u> </u>
.50 CAL	<u> </u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u> </u>	SINGLE <u>+</u>	MED (500-1500) <u> </u>	VIS <u> </u>
S <u>+</u>	SIMUL <u> </u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>
	MULT <u> </u>		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	<u> </u>
Coax	<u> </u>
.50 Caliber	<u> </u>

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 24
OBJECTIVE: 24C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	—	+	—	+	+	+
MALFUNCTION	+	—	+	—	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	—
	MULT		+

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 25

OBJECTIVE: 25A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>—</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>+</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	<u>+</u>	SINGLE <u>—</u>	MED (500-1500)	<u>+</u>	VIS <u>+</u>
S	<u>+</u> (.50 Cal)	SIMUL <u>+</u>	LONG (1501-3000)	<u>+</u>	VIS/TIS <u>—</u>
		MULT <u>—</u>			

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	<u>—</u>
From first round impact to second round fired (if first round miss):	<u>—</u>	or <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	<u>—</u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	<u>—</u>
From start of fire command to finish of lay for direction:	<u>—</u>	<u>—</u>
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 25
OBJECTIVE: 25B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	+	+	—	—	+	+
MALFUNCTION	—	—	+	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:		—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:		—
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:		—
From finish of tracking to target suppression:		—

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 25

OBJECTIVE: 25C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	<u>+</u>	M	<u>+</u>	STAB	<u>+</u>	POWER <u>+</u>
COAX	<u>+</u>	S	<u>—</u>	NONSTAB	<u>—</u>	MANUAL <u>—</u>
.50 CAL	<u>—</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>—</u>	<u>—</u>	<u>+</u>	<u>+</u>	<u>—</u>	<u>—</u>

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M <u>+</u>	SINGLE <u>—</u>	MED (500-1500) <u>+</u>	VIS <u>—</u>	
S <u>—</u>	SIMUL <u>—</u>	LONG (1501-3000) <u>+</u>	VIS/TIS <u>+</u>	
	MULT <u>+</u>			

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u>—</u>	<u>—</u>
From TC "Fire" to first round fired:	<u>—</u>	<u>—</u>
From TC completion of lase to first round fired:	<u>—</u>	
From first round impact to second round fired (if first round miss):	<u>—</u>	<u>or</u> <u>—</u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u>—</u>	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u>—</u>	
From start of fire command to finish of lay for direction:	<u>—</u>	
From Gunner "Identify" to select coax, lay, track:	<u>—</u>	<u>—</u>
From finish of tracking to target suppression:	<u>—</u>	<u>—</u>

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Elevation error from center of mass (Precision):	<u>—</u> mils	<u>—</u> mils
Deflection error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
Elevation error from base of target (Battlesight):	<u>—</u> mils	<u>—</u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	<u>—</u>	
Coax	<u>—</u>	
.50 Caliber	<u>—</u>	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 26

OBJECTIVE: 26A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB	+	POWER
COAX	—	S	—	NONSTAB	—	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION			+			
MALFUNCTION	+		—	+	+	+

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select ammo, lay, track, and lase:	—	
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	
From TC "Fire" to first round fired:	—	
From TC completion of lase to first round fired:	—	
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	
From start of fire command to finish of lay for direction:	—	
From Gunner "Identify" to select coax, lay, track:	—	
From finish of tracking to target suppression:	—	
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 26
OBJECTIVE: 26B

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG <u>+</u>	M <u>+</u>		STAB <u>+</u>		POWER <u>+</u>	
COAX <u> </u>	S <u> </u>		NONSTAB <u> </u>		MANUAL <u> </u>	
.50 CAL <u> </u>						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	<u> </u>	<u>+</u>	<u> </u>	<u> </u>	<u>+</u>	<u>+</u>
MALFUNCTION	<u>+</u>	<u> </u>	<u>+</u>	<u>+</u>	<u> </u>	<u> </u>

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE <u> </u>	MED (500-1500) <u>+</u>	VIS <u> </u>
S <u> </u>	SIMUL <u> </u>	LONG (1501-3000) <u> </u>	VIS/TIS <u>+</u>
	MULT <u>+</u>		

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From Gunner "Not Identified" to select ammo, lay, track, and lase:	<u> </u>	<u> </u>
From TC "Fire" to first round fired:	<u> </u>	<u> </u>
From TC completion of lase to first round fired:	<u> </u>	<u> </u>
From first round impact to second round fired (if first round miss):	<u> </u>	<u> </u> or <u> </u>
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	<u> </u>	<u> </u>
<u>Coax Engagements</u>		
From target exposure to start of fire command:	<u> </u>	<u> </u>
From start of fire command to finish of lay for direction:	<u> </u>	<u> </u>
From Gunner "Identify" to select coax, lay, track:	<u> </u>	<u> </u>
From finish of tracking to target suppression:	<u> </u>	<u> </u>

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Elevation error from center of mass (Precision):	<u> </u> mils	<u> </u> mils
Deflection error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
Elevation error from base of target (Battlesight):	<u> </u> mils	<u> </u> mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u> </u> Rounds	<u> </u>
Main Gun	<u> </u>	<u> </u>
Coax	<u> </u>	<u> </u>
.50 Caliber	<u> </u>	<u> </u>

FIRE DELIVERY METHOD: Normal Battlesight

ENGAGEMENT CATEGORY: 26

OBJECTIVE: 26C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M	+	STAB	+	POWER	+
COAX	S	—	NONSTAB	—	MANUAL	—
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	—	+	—	—	+	+
MALFUNCTION	+	—	+	+	—	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000)	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	Rounds	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 27

OBJECTIVE: 27A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
NG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	—	+	+
MALFUNCTION		—	—	+	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	—
S	—	LONG (1501-3000)	+
	SINGLE	+	VIS
	SIMUL	—	VIS/TIS
	MULT	—	+

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:	—	—
<u>Coax Engagements</u>		
From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>		
	<u>Rounds</u>	
Main Gun	—	
Coax	—	
.50 Caliber	—	

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 27

OBJECTIVE: 27B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER +
COAX	+	S	+	NONSTAB	+	MANUAL —
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	—	—	+
MAJFUNCTION		—	—	+	+	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M +	SINGLE —	MED (500-1500)	+	VIS +
S —	SIMUL —	LONG (1501-3000)	+	VIS/TIS —
	MULT +			

CRITERIA

TIME (Seconds)		TC	GNR
<u>Main Gun Engagements</u>			
From target exposure to start of initial fire command:		—	
From start of fire command to finish of lay for direction:		—	
From Gunner "Identify" to select ammo, lay, track, and lase:		—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:		—	—
From TC "Fire" to first round fired:		—	—
From TC completion of lase to first round fired:		—	—
From first round impact to second round fired (if first round miss):		—	or —
<u>.50 Caliber Engagements</u>			
From target exposure to target suppression:		—	
<u>Coax Engagements</u>			
From target exposure to start of fire command:		—	
From start of fire command to finish of lay for direction:		—	
From Gunner "Identify" to select coax, lay, track:		—	—
From finish of tracking to target suppression:		—	—
<u>AIMING ERROR</u>			
<u>Dry Fire-Main Gun</u>	First Round	Second Round	
Deflection error from center of mass (Precision):	— mils	— mils	
Elevation error from center of mass (Precision):	— mils	— mils	
Deflection error from base of target (Battlesight):	— mils	— mils	
Elevation error from base of target (Battlesight):	— mils	— mils	
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	Rounds		
Main Gun	—		
Coax	—		
.50 Caliber	—		

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 27

OBJECTIVE: 27C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	+					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+	—	—	+
MALFUNCTION		—	—	+	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command: —
 From start of fire command to finish of lay for direction: —
 From Gunner "Identify" to select coax, lay, track: —
 From finish of tracking to target suppression: —

AIMING ERROR

Dry Fire—Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire—Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 28

OBJECTIVE: 28A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION			+			+
MALFUNCTION	+			+	+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		+
			VIS
			VIS/TIS

CRITERIA

TIME (Seconds)	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 28
OBJECTIVE: 28B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	_____	M	_____	STAB	_____	POWER <u>+</u>
COAX	<u>+</u>	S	<u>+</u>	NONSTAB	<u>+</u>	MANUAL _____
.50 CAL	<u>+</u>					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION			<u>+</u>			<u>+</u>
MALFUNCTION	<u>+</u>		_____	<u>+</u>	<u>+</u>	_____

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M <u>+</u>	SINGLE _____	MED (500-1500) <u>+</u>	VIS _____
S <u>+</u> (.50 Cal)	SIMUL <u>+</u>	LONG (1501-3000) _____	VIS/TIS <u>+</u>
	MULT _____		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____ or _____	_____

.50 Caliber Engagements

From target exposure to target suppression: _____

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 28

OBJECTIVE: 28C

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER
COAX	—	S	+	NONSTAB	+	MANUAL
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		—	+	—	—	+
MALFUNCTION		+	—	+	+	—

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	SINGLE	+
S	—	SIMUL	—
		MULT	—
		MED (500-1500)	—
		LONG (1501-3000)	+
			VIS
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command: —
 From start of fire command to finish of lay for direction: —
 From Gunner "Identify" to select coax, lay, track: —
 From finish of tracking to target suppression: —

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 29

OBJECTIVE: 29A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER +
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+				+
MALFUNCTION			+	+	+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE +	MED (500-1500)	VIS +
S	SIMUL	LONG (1501-3000) +	VIS/TIS
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	mils	mils
Elevation error from center of mass (Precision):	mils	mils
Deflection error from base of target (Battlesight):	mils	mils
Elevation error from base of target (Battlesight):	mils	mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	
Coax	
.50 Caliber	

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 29

OBJECTIVE: 29B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	+	STAB		POWER +
COAX	---	S	+	NONSTAB	+	MANUAL ---
.50 CAL	---					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	---	---	---	+
MALFUNCTION		---	+	+	+	---

TARGET					
TGT MOTION		TGT NUMBER	RANGE	VIS	
M	+	SINGLE	MED (500-1500)	+	VIS +
S	---	SIMUL	LONG (1501-3000)	+	VIS/TIS ---
		MULT		+	

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:	---	
From start of fire command to finish of lay for direction:	---	
From Gunner "Identify" to select ammo, lay, track, and lase:		---
From Gunner "Not Identified" to select ammo, lay, track, and lase:	---	
From TC "Fire" to first round fired:		---
From TC completion of lase to first round fired:	---	
From first round impact to second round fired (if first round miss):	---	or ---

.50 Caliber Engagements

From target exposure to target suppression: ---

Coax Engagements

From target exposure to start of fire command: ---
 From start of fire command to finish of lay for direction: ---
 From Gunner "Identify" to select coax, lay, track: ---
 From finish of tracking to target suppression: ---

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	--- mils	--- mils
Elevation error from center of mass (Precision):	--- mils	--- mils
Deflection error from base of target (Battlesight):	--- mils	--- mils
Elevation error from base of target (Battlesight):	--- mils	--- mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	---	
Coax	---	
.50 Caliber	---	

FIRE DELIVERY METHOD: Emergency Precision

ENGAGEMENT CATEGORY: 2C
OBJECTIVE: 29C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB		POWER	+
COAX	S	+	NONSTAB	+	MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+				+	+
MALFUNCTION		+	+	+		

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE	MED (500-1500)	+
S + (.50 Cal)	SIMUL	LONG (1501-3000)	+
	MULT		

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select ammo, lay, track, and lase:	_____	_____
From Gunner "Not Identified" to select ammo, lay, track, and lase:	_____	_____
From TC "Fire" to first round fired:	_____	_____
From TC completion of lase to first round fired:	_____	_____
From first round impact to second round fired (if first round miss):	_____	_____ or _____

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:	_____	_____
From start of fire command to finish of lay for direction:	_____	_____
From Gunner "Identify" to select coax, lay, track:	_____	_____
From finish of tracking to target suppression:	_____	_____

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	_____
Coax	_____
.50 Caliber	_____

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 30
OBJECTIVE: 30A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER
COAX	+	S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+			+
MALFUNCTION				+	+	

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M	+	SINGLE		
S		SIMUL		
		MULT	+	
			MED (500-1500)	+
			LONG (1501-3000)	+
				VIS/TIS

CRITERIA

TIME (Seconds)		
	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		
<u>AIMING ERROR</u>		
<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	mils	mils
Elevation error from center of mass (Precision):	mils	mils
Deflection error from base of target (Battlesight):	mils	mils
Elevation error from base of target (Battlesight):	mils	mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun		
Coax		
.50 Caliber		

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 30

OBJECTIVE: 30B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER +
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		+	+			+
MALFUNCTION				+	+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE +	MED (500-1500)	VIS
S	SIMUL	LONG (1501-3000) +	VIS/TIS +
	MULT		

CRITERIA

TIME (Seconds)

<u>Main Gun Engagements</u>	<u>TC</u>	<u>GNR</u>
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

<u>Dry Fire-Main Gun</u>	<u>First Round</u>	<u>Second Round</u>
Deflection error from center of mass (Precision):	mils	mils
Elevation error from center of mass (Precision):	mils	mils
Deflection error from base of target (Battlesight):	mils	mils
Elevation error from base of target (Battlesight):	mils	mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun		
Coax		
.50 Caliber		

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 30
OBJECTIVE: 30C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB		POWER	+
COAX	S	+	NONSTAB	+	MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION	+	+			+	+
MALFUNCTION			+	+		

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	SINGLE	MED (500-1500)	+
S	SIMUL	LONG (1501-3000)	+
	MULT		
			VIS/TIS

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
.50 Caliber Engagements		
From target exposure to target suppression:		
Coax Engagements		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

Dry Fire-Main Gun	First Round	Second Round
Deflection error from center of mass (Precision):	mils	mils
Elevation error from center of mass (Precision):	mils	mils
Deflection error from base of target (Battlesight):	mils	mils
Elevation error from base of target (Battlesight):	mils	mils
Live Fire-Main Gun, Coax, .50 Caliber	Rounds	
Main Gun		
Coax		
.50 Caliber		

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 31

OBJECTIVE: 31A

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M	—	STAB	—	POWER +
COAX	—	S	+	NONSTAB	+	MANUAL —
.50 CAL	—					
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION		—	+	—	—	+
MALFUNCTION		+	—	+	+	—

TARGET				
TGT MOTION	TGT NUMBER	RANGE	VIS	
M +	SINGLE —	MED (500-1500)	+	VIS —
S —	SIMUL —	LONG (1501-3000)	+	VIS/TIS +
	MULT +			

CRITERIA

TIME (Seconds)

Main Gun Engagements

	TC	GNR
From target exposure to start of initial fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select ammo, lay, track, and lase:	—	—
From Gunner "Not Identified" to select ammo, lay, track, and lase:	—	—
From TC "Fire" to first round fired:	—	—
From TC completion of lase to first round fired:	—	—
From first round impact to second round fired (if first round miss):	—	or —

.50 Caliber Engagements

From target exposure to target suppression: —

Coax Engagements

From target exposure to start of fire command:	—	—
From start of fire command to finish of lay for direction:	—	—
From Gunner "Identify" to select coax, lay, track:	—	—
From finish of tracking to target suppression:	—	—

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	— mils	— mils
Elevation error from center of mass (Precision):	— mils	— mils
Deflection error from base of target (Battlesight):	— mils	— mils
Elevation error from base of target (Battlesight):	— mils	— mils

Live Fire-Main Gun, Coax, .50 Caliber

	Rounds
Main Gun	—
Coax	—
.50 Caliber	—

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 31
OBJECTIVE: 31B

OWN TANK						
WEAPON		TANK MOTION		TURRET		CONTROLS
MG	+	M		STAB		POWER
COAX		S	+	NONSTAB	+	MANUAL
.50 CAL						
		GPS	TIS	LRF	LEAD	CROSSWIND
FUNCTION			+			+
MAFUNCTION		+		+	+	

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M	+	MED (500-1500)	VIS
S		LONG (1501-3000)	+
	SIMUL		VIS/TIS
	MULT		+

CRITERIA

TIME (Seconds)

Main Gun Engagements	TC	GNR
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or

.50 Caliber Engagements

From target exposure to target suppression:

Coax Engagements

From target exposure to start of fire command:
From start of fire command to finish of lay for direction:
From Gunner "Identify" to select coax, lay, track:
From finish of tracking to target suppression:

AIMING ERROR

Dry Fire-Main Gun

	First Round	Second Round
Deflection error from center of mass (Precision):	mils	mils
Elevation error from center of mass (Precision):	mils	mils
Deflection error from base of target (Battlesight):	mils	mils
Elevation error from base of target (Battlesight):	mils	mils

Live Fire-Main Gun, Coax, .50 Caliber

Main Gun
Coax
.50 Caliber

Rounds

FIRE DELIVERY METHOD: Emergency Battlesight

ENGAGEMENT CATEGORY: 31

OBJECTIVE: 31C

OWN TANK						
WEAPON	TANK MOTION		TURRET		CONTROLS	
MG	M		STAB		POWER	+
COAX	S	+	NONSTAB	+	MANUAL	
.50 CAL						
	GPS	TIS	LRF	LEAD	CROSSWIND	CANT
FUNCTION		+			+	+
MALFUNCTION	+		+	+		

TARGET			
TGT MOTION	TGT NUMBER	RANGE	VIS
M +	SINGLE	MED (500-1500)	+
S + (.50 Cal)	SIMUL +	LONG (1501-3000)	
	MULT		VIS/TIS +

CRITERIA

TIME (Seconds)

	TC	GNR
<u>Main Gun Engagements</u>		
From target exposure to start of initial fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select ammo, lay, track, and lase:		
From Gunner "Not Identified" to select ammo, lay, track, and lase:		
From TC "Fire" to first round fired:		
From TC completion of lase to first round fired:		
From first round impact to second round fired (if first round miss):		or
<u>.50 Caliber Engagements</u>		
From target exposure to target suppression:		
<u>Coax Engagements</u>		
From target exposure to start of fire command:		
From start of fire command to finish of lay for direction:		
From Gunner "Identify" to select coax, lay, track:		
From finish of tracking to target suppression:		

AIMING ERROR

	First Round	Second Round
<u>Dry Fire-Main Gun</u>		
Deflection error from center of mass (Precision):	_____ mils	_____ mils
Elevation error from center of mass (Precision):	_____ mils	_____ mils
Deflection error from base of target (Battlesight):	_____ mils	_____ mils
Elevation error from base of target (Battlesight):	_____ mils	_____ mils
<u>Live Fire-Main Gun, Coax, .50 Caliber</u>	<u>Rounds</u>	
Main Gun	_____	
Coax	_____	
.50 Caliber	_____	

APPENDIX C
TRAINING RESOURCE REQUIREMENT FORMS

PERSONNEL REQUIREMENTS

Please provide the information requested below for each person involved in the planning, development, conduct, and evaluation of the gunnery sustainment training program.

Name: _____ Rank/Grade: _____ MOS: _____

Function (See Note A)	Training Group (See Note B)	Role (P/S) See Note C)	Time (hours) (See Note D)
Planning	I: XM1 Baseline	_____	_____
	II: Chrysler UCFT	_____	_____
	III: GE UCFT	_____	_____
Development	I: XM1 Baseline	_____	_____
	II: Chrysler UCFT	_____	_____
	III: GE UCFT	_____	_____
Conduct	I: XM1 Baseline	_____	_____
	II: Chrysler UCFT	_____	_____
	III: GE UCFT	_____	_____
Evaluation	I: XM1 Baseline	_____	_____
	II: Chrysler UCFT	_____	_____
	III: GE UCFT	_____	_____

Note A: Planning includes scheduling, determining personnel and equipment requirements, logistics, etc.
Development includes writing and review of lesson plans, test materials, etc.
Conduct includes actual training and testing time during implementation.
Evaluation includes pre- and post-training testing and transfer study testing.

Note B: Group I soldiers are trained on the XM1 tank only.
Group II soldiers are trained on the Chrysler UCFT.
Group III soldiers are trained on the GE UCFT.

Note C: Primary (P) Role means the person directed or was responsible for major portions of work in that function.
Support (S) Role means the person assisted or was under the supervision of someone in a primary role.
If neither, leave blank.

Note D: If the time expended on a function is for more than on training group, record the time wherever applicable, and attach a note telling how many hours are recorded for more than one group and for which functions/groups they are recorded.

CREW TRAINING REPORT FORM

Please provide the information requested below for each crew (gunner and tank commander) in the gunnery sustainment training program.

Training Group: XM1 Baseline _____ Crew Number: _____

 Chrysler UCOFT _____

 GE UCOFT _____

<u>GUNNER</u>	<u>TANK COMMANDER</u>
Name: _____	Name: _____
Date Completed Transition Training: _____	Date Completed Transition Training: _____
Months as Gunner: _____	Months as TC: _____
Fired together in these crew positions?	Yes _____ Number of Times: _____
	No _____

<u>Block/Objective</u>	<u>Date/Time Started</u>	<u>Date/Time Mastered</u>	<u>Number of Tries</u>	<u>Total Time</u>
(List all training blocks and objectives)	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

	Block Total			_____
				.
				.
				.

GUNNERY OBJECTIVE SCORE SHEET

OBJECTIVE: _____ TRAINING PHASE: _____ CREW NUMBER: _____
 _____ XM1 Pretest (One trial) _____ COMMANDER: _____
 _____ Device Pretest (One trial) _____ GUNNER: _____
 _____ Training (Three trials) _____ TRAINING GROUP: _____
 _____ Device Posttest (One trial) _____ XM1 Baseline _____
 _____ XM1 Posttest (Five trials) _____ Chrysler UCFT _____
 _____ GE UCFT _____

CRITERIA	MASTERY				
	STANDARD				
TIME (Seconds)	1	2	3	4	5
<u>Main Gun Engagements</u>					
Target to start fire command:	_____	_____	_____	_____	_____
Start fire command to finish lay:	_____	_____	_____	_____	_____
GNR "ID" to select ammo, lay, track, lase:	_____	_____	_____	_____	_____
GNR "Not ID" to select ammo, lay, track, lase:	_____	_____	_____	_____	_____
TC "FIRE" to 1st rd. fired:	_____	_____	_____	_____	_____
1st rd. impact to 2nd rd. fired (if miss):	_____	_____	_____	_____	_____
<u>.50 Caliber Engagements</u>					
Target to suppression:	_____	_____	_____	_____	_____
Coax Engagements	_____	_____	_____	_____	_____
Target to start fire command:	_____	_____	_____	_____	_____
Start fire command to finish lay:	_____	_____	_____	_____	_____
Gunner "ID" to select coax, lay, track:	_____	_____	_____	_____	_____
Finish track to suppression:	_____	_____	_____	_____	_____

AIMING ERROR

<u>Dry Fire - Main Gun</u>					
Prec. - 1st Rd.	Def. from center of mass	_____	_____	_____	_____
	El. from center of mass	_____	_____	_____	_____
2nd Rd.	Def. from center of mass	_____	_____	_____	_____
	El. from center of mass	_____	_____	_____	_____
B-sight. - 1st Rd.	Def. from base of target	_____	_____	_____	_____
	El. from base of target	_____	_____	_____	_____
2nd Rd.	Def. from base of target	_____	_____	_____	_____
	El. from base of target	_____	_____	_____	_____
<u>Live Fire</u>					

Main Gun: Mark 1 for 1st Rd. Hit, 2 for 2nd

Rd. Hit, 0 for No Hit:

.50 Cal: No. of Rds. fired: _____

Suppressed (Yes/No): _____

Coax: No. of Rds. fired: _____

Suppressed (Yes/No): _____